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EXAMINER

HUYNH, SON P

ART UNIT

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/004,770	<b>Applicant(s)</b> LAKSONO ET AL.	
	<b>Examiner</b> SON P. HUYNH	<b>Art Unit</b> 2424	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 30 October 2008.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 70,72-75,77,80-83,88,90-93 and 95-101 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 70,72-75,77,80-83,88,90-93 and 95-101 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant's arguments with respect to claims 70, 72-75, 77, 80-83, 88, 90-93, 95-101 have been considered but are moot in view of the new ground(s) of rejection.

Claims 1-69, 71, 76-77, 79, 84-87, 89, 94 have been canceled.

Applicant argues neither Porter nor Lin discloses or renders obvious the feature of each frame index entry of a frame index comprising "an indicator of whether the corresponding frame is critical to the video stream (page 9, paragraph 5). This argument is respectfully traversed.

Porter in view of Lin discloses each frame index entry comprising an identifier of a frame type of a corresponding frame (e.g., identifier as I, B, P or frame number of frame type I, B, P - see include, but are not limited to, Porter, col. 10, lines 12-13, col. 11, line 66-col. 12, line 11, col. 15, line 56-col. 16, line 35; Lin: figures 3a-6b); and an indicator of whether the corresponding frame is critical to the video stream (see include, but are not limited to, Porter, col. 10, lines 12-13, col. 11, line 66-col. 12, line 11, col. 15, line 56-col. 16, line 35; Lin: figures 3a-6b, interpreted as frame with I frame indicator/type indicates the frame is critical to the video stream such as the I frame contain information for

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displaying other P or B frame or skipping of I frame will change playback rate of the video stream.

For the reason given above, rejection on the claims is analyzed as discussed below.

### ***Claim Objections***

2. Claims 72 and 90 are objected to because of the following informalities:

Claims 72 and 90 depends on cancelled claims 71 and 89. These are interpreted as best understood that claim 72 depends on claim 70 and claim 90 depends on claim 88. Appropriate corrections are required.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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4. Claims 70, 72-75, 77, 80-83, 88, 90-93, 95-101 are rejected under 35 U.S.C. 103(a) as being unpatentable over Porter et al. (US 5,864,682) in view of Lin et al. (US 2003/0093801 A1).

Regarding claim 70, Porter discloses a method comprising:

generating, at a video server, a frame index for a video stream, the frame index comprising a plurality of frame index entries corresponding to a plurality of frames of the video stream (interpreted as generating, at video server comprising storage, tag file generator, stream server, video pump, etc., a frame index/entry for each frame of a video stream, etc. in the tag file, the frame index/entry for each frame in tag file comprising entry for each frame of video stream within MPEG file 104 - see include, but are not limited to, col. 9, line 5-col. 11, line 49, figures 1b, 2b-2c);

each frame index entry comprising an identifier of a frame type of a corresponding frame (e.g., identifier as I, B, P or frame number of frame type I, B, P - see include, but are not limited to, Porter, col. 10, lines 12-13, col. 11, line 66-col. 12, line 11, col. 15, line 56-col. 16, line 35); and an indicator of whether the corresponding frame is critical to the video stream (see include, but are not limited to, Porter, col. 10, lines 12-13, col. 11, line 66-col. 12, line 11, col. 15, line 56-col. 16, line 35; interpreted as frame with I frame indicator/type indicates the frame is critical to the video stream such as the I frame contain information for displaying other P or B frame or skipping of I frame will change playback rate of the video stream).

Porter further discloses the user can send request to the server for variable rate playback operations including normal playback, fast forward playback, etc. (see include,

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but are not limited to, col. 16, lines 33-67, col. 24, lines 16-54). Thus, a first set of frames of the plurality of frames is inherently to be displayed prior to a second set of frames of the plurality of frames in a forward presentation of the video stream (e.g., in normal playback operation or fast forward operation, a first set of frames in one portion of video stream is to be displayed prior to the second set of frames in the subsequent portion/segment of video stream);

receiving, at the video server, a first presentation request for the video stream from a display client via a network, the video server remote to the display client, the first presentation request comprising a request for reverse playback (interpreted as receiving at the video server, including storage 140, tag file generator, stream server, video pump, etc., a first presentation request including slow rewind, fast rewind, etc. for the video stream from client comprising set top box, television, etc. via a network (120 and 150 is a single network – col. 6, lines 12-14) , the video server including stream server, tag file generator, etc. remote to the display device at client - see include, but are not limited to, figure 1b, col. 11, line 50-col. 13, line 25, col. 16, lines 35-67; col. 19, line 3-col. 21, line 25);

determining, at the video server, a first subset of frames of the first set and a second subset of the frames of the second set based on the frame index in response to the first presentation request (determining, at stream server, video pump, storage device, etc. a subset of frames of the first set of the one portion of video stream and the second set in the frames in the subsequent portion/segment of the video stream based on the frame index in response to the request operation received from the client based

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on entry of frames and other information in the tag file - see include, but are not limited to, figures 1b, 2b-2c, 6-7, col. 3, line 44-col. 4, line 32, col. 9, line 5-col. 13, line 15, col. 16, line 35-col. 18, line 46, col. 20, line 35-col. 21, line 25, col. 23, line 30, lines 30-65);

transmitting the second subset of frames to the display client via the network (interpreted as transmitting the subset of frames in the subsequent portion of the video stream to the client via network 120 and/or 150 - see include, but are not limited to, figures 1b-2c, 6-7, col. 16, lines 33-67, col. 20, line 44-col. 21, line 25);

transmitting the first subset of frames to the display client via the network (transmitting the subset of frames in the portion of video stream to the client for display via the network in response to the seek operations, fast forward operations, slow forward request, etc. - see include, but are not limited to, col. 6, line 10-22, col. 11, line 50-col. 13, line 24, col. 16, line 35-col. 21, line 25).

Porter further discloses during rewind operations, the frames on which P and B frames depend will be processed after the P and B frames that depend on them; the user can select any specified rate playback operations. The P and B frames are not automatically skipped in the frame selection process - col. 16, lines 33-67, col. 18, lines 13-25, col. 20, lines 67-col. 21, line 19). Porter does not explicitly disclose the first subset and the second subset transmitted in response to the reverse playback comprise an intra-coded frame and at least one forward-predicted frame.

Lin discloses each frame index entry comprising an identifier of a frame type of a corresponding frame (e.g., identifier as I, B, P or frame number of frame type I, B, P - see include, but are not limited to, figures 3a-6b); and an indicator of whether the

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corresponding frame is critical to the video stream (see include, but are not limited to, figures 3a-6b, interpreted as frame with I frame indicator/type indicates the frame is critical to the video stream such as the I frame contain information for displaying other P or B frame or skipping of I frame will change playback rate of the video stream.

Lin further discloses the server, in response to request for backward play mode from client, interprets the requested mode and controls bit stream managing module to read out the reverse encoded bit stream from the current frame toward the beginning frame, and transmits these bits to network 103; wherein the reverse encoded bit stream includes I-frames and P-frames encoded depending on reverse direction preceding frames (see include, but are not limited to, figures 3b-4, 6A, abstract, paragraphs 0047, 0126). Thus, Lin discloses the teaching of determining, at video server, a first subset of frames of first set and a second subset of the frames of second set based on the frame index in response to first presentation request (i.e., request for backward play mode), first subset comprising an inter-code frame (I-frame) and at least one forward-predicted frame (P-frame) of first set of frames and the second subset comprising an intra-coded frame (I frame) and at least one forward-predicted frame of the second set of frames and those frames are transmitted to the display client via the network.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Porter with the teaching as taught by Lin in order to yield predictable result such as to improve quality of pictures in reverse playback mode.



Regarding claim 72, Porter in view of Lin teaches the method as discussed in the rejection of claim 70. Porter further discloses each frame index further comprises an offset value identifying a starting location of data representative of the corresponding frame within a file representing of the video stream (e.g., offset at the start of picture, start offset, or pack offset, initial MPEG time offset, etc.) and a size value representative of a size of the data representative of the corresponding frame (e.g., frame size, picture size, etc.) – see include, but are not limited to, figures 2b-2c, col. 9, lines 23-40, col. 10, line 5-15; col. 11, lines 50-67, col. 15, line 43-col. 16, line 32, col. 17, line 37-col. 18, line 46).

Regarding claim 73, Porter in view of Lin teaches the method as discussed in the rejection of claim 70. Porter further discloses, wherein generating the frame index comprises:

- receiving, at the server, and encoded data stream representative of the video stream (e.g., MPEG file 104 – figure 1b);

- processing, at the video server, the encoded data stream to identify each frame of the video stream (the tag file generator generates a tag file 106, containing entry of frame and other information, from the MPEG file 104 - see include, but are not limited to, figure 1b, col. 7, lines 25-62);

- generating, at the video server, a frame index entry of the frame index for each frame identified during processing (generating, at the video server, tag file comprises

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entry for each frames identified during processing of MPEG file 104 – see include, but are not limited to, figure 1b, 2b-2c, col. 7, lines 24-63, col. 9, line 6-col. 11, line 49); and storing the encoded data stream (storing MPEG file in video pump or storage – see include, but are not limited to, figure 1b, col. 6, line 1-col. 7, line 62).

Regarding claim 74, Porter in view of Lin teaches the method as discussed in the rejection of claim 70. Porter further discloses, wherein generating the frame index comprises:

receiving, at the video server, and unencoded data stream representative of the video stream (e.g., receiving video before being encoded by MPEG encoder – col. 7, lines 45-53);

encoding, at the video server, the unencoded data stream to generating an encoded data stream representative of the video stream (e.g., using MPEG encoder to generate encoded MPEG data stream - see include, but are not limited to, col. 7, lines 45-53)

generating, at the video server, a frame index entry of the frame index for each frame identified frame of the encoded video stream (generating, at the video server, tag file comprises entry for each frames identified frame of MPEG file 104 – see include, but are not limited to, figure 1b, 2b-2c, col. 7, lines 24-63, col. 9, line 6-col. 11, line 49); and storing the encoded data stream (storing MPEG file in video pump or storage – see include, but are not limited to, figure 1b, col. 6, line 1-col. 7, line 62).

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Regarding claim 75, Porter in view of Lin teaches the method as discussed in the rejection of claim 70. Porter further discloses receiving, at the video server, a second presentation request for the video stream from the display client via the network, the second presentation request comprising a request for a fast forward playback (e.g., request for multiple rates of fast forward operations from the client via the network - see include, but are not limited to, col. 16, lines 35-67);

determining, at the video server, a third subset of frames of the first set and a fourth subset of frames of the second set based on the frame index in response to the second presentation request (determining, at the stream server, video pump, etc. a subset of frames in the portion and subset of frames in the subsequent portion of video stream in response to particular fast forward operation/rate based on the frame index in tag file - see include, but are not limited to, col. 16, lines 35-67, col. 20, line 60-col. 21, line 25);

transmitting the third subset of frames to the display client via the network and transmitting the fourth subset of frames to the display client via the network subsequent to the third subset of frame (transmitting subset of selected frames in the portion of video stream to the client via the network and subsequently transmitting the subset of the selected frames in the subsequent portion of video stream to the client via the network for display in response to the particular past forward request - see include, but are not limited to, figure 1b, col. 16, lines 35-67, col. 20, line 60-col. 21, line 25 and discussion in the rejection of claim 70).

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Regarding claim 77, Porter in view of Lin teaches the method as discussed in the rejection of claim 75. Lin further discloses the third subset includes only intra-coded frames and forward-predicted of the first and the fourth subset includes only inter-coded frames and forward predicted frames of the second set (see include, but are not limited to, paragraphs 0035, lines 1-2, paragraphs 0036, 0038, figures 3A-3c, 6b, 9). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Porter with the teaching as further taught by Lin in order to yield predictable result such as to reduce delay time to display video in limited bandwidth network.

Regarding claim 80, Porter in view of Lin teaches the method as discussed in the rejection of claim 70. Lin further discloses the first set of pictures comprises a first Group of Pictures (GOP) and the second set of pictures comprises a second GOP (see include, but are not limited to, figures 1, 3A-3C, paragraphs 0036-0037).

Regarding claim 81, Porter in view of Lin teaches the method as discussed in the rejection of claim 70. Porter in view of Lin further discloses receiving, at the display client, user input indicating a requested reverse playback of the video stream (see include, but are not limited to, Porter: col. 16, lines 35-53, col. 20, lines 60-67; Lin: paragraphs 0047-49, figure 2);

generating, at the display client, the first presentation request based on the user input (see include, but are not limited to, Porter: col. 16, lines 35-53, col. 20, lines 60-67; Lin: paragraphs 0047);

transmitting the first presentation request from the display client to the video server via the network (see include, but are not limited to, Porter: col. 16, lines 35-67, col. 20, line 60-col. 21, line 24; Lin: paragraphs 0047-49, figures 2,4-5,9);

receiving, at the display client, the second subset of frames (see include, but are not limited to, Porter: col. 16, lines 35-67, col. 20, line 60-col. 21, line 24; Lin: paragraphs 0047-49, figures 2,4-5,9);

receiving, at the display client, the first subset of frames subsequent to receiving the second subset of frame (see include, but are not limited to, Porter: col. 16, lines 35-67, col. 20, line 60-col. 21, line 24; Lin: paragraphs 0047-49, figures 2,4-5,9 and discussion correspond to the rejection of claim 70);

processing, at the display client, the second subset of frames for display, and processing, at the display client, the first subset of frames for display subsequent to display of the second subset of frames (see include, but are not limited to, Porter: col. 16, lines 35-67, col. 20, line 60-col. 21, line 24; Lin: paragraphs 0047-49, figures 2-5, 6a, 9).

Regarding claim 82, Porter in view of Lin further discloses the first subset of frames and the second subset of frames are represented by encoded data (MPEG file) and processing the first subset of frames and processing the second subset of frames comprising decoding the encoded data (see include, but are not limited to, Porter: col. 7, lines 25-62, col. 15, line 43-65, col. 17, lines 59-63; Lin: figure 2, paragraph 0036).

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Regarding claim 83, Porter in view of Lin further discloses for each frame of at least a portion of the second subset, modifying a presentation time stamp of the frame prior to transmitting the transmitting to the display; and for each frame of at least a portion of the first subset, modifying a presentation time stamp of the frame based on the first presentation sequence prior to transmitting the frame to the display client (e.g., modify with delayed time stamp or forward time stamp or other time stamp with different start time according to the request - see include, but are not limited to, Porter: col. 7, lines 25-62, col. 11, lines 52-64, col. 12, lines 53-67, col. 14, line 60-col. 15, line 42, col. 16, line 7-31, col. 20, lines 45-59).

Regarding claim 88, the limitations of the system that correspond to the limitations of the method as claimed in claim 70 and are analyzed as discussed with respect to the rejection of claim 70, wherein the claim "a recording module" is interpreted as storage and/or tag file generator; "an interface coupled to the network" is interpreted as interface of the stream server and downstream manager coupled to the network connected between the server and client; "a presentation control.." is interpreted as stream server, video pump, downstream manager and/or Bit stream managing module, etc. (see include, but are not limited to, Porter: figures 1b, 6; Lin: figure 2 and discussion in the rejection of claim 70).

Regarding claim 96, Porter further discloses the first subset includes only intra-code frames (I frames) of the first set and the second subset includes only inter-coded frames

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of the second set (col. 15, line 57-col. 16, line 7; col. 17, lines 12-16, col. 17, lines 65-67; col. 20, lines 61-64).

Regarding claim 97, Porter in view of Lin discloses the system as discussed in the rejection of claim 88. Porter in view of Lin further discloses the interface is further to receive a second presentation request for the video stream from the display client via the network, the second presentation request comprising a presentation request for a normal playback of the video stream (e.g., request for playback the video in at normal rate or lx, etc. from the client via the network - see include, but are not limited to, Porter: col. 9, lines 15-22, col. 11, lines 53-64, col. 15, lines 14-17, col. 15, lines 51-65, col. 22, lines 16-24; Lin: figure 2);

the presentation control further is to determine a presentation sequence for the second subset of frames based on the frame index in response to the second presentation request (determining, at the stream server, video pump, etc. a subset of frames of the plurality of frames and a second presentation sequence based on the frame index in tag file in response to the request for normal playback. - see include, but are not limited to, Porter: col. 9, lines 15-22, col. 11, lines 53-64, col. 15, lines 14-17, col. 15, lines 51-65, col. 22, lines 16-24, col. 16, lines 35-67, col. 20, line 60-col. 21, line 25; Lin: figure 2);

the interface is to transmit at least a portion of the plurality of frames having the presentation sequence to the display client via the network (transmitting subset of frames having the presentation sequence to the client via the network for display in response to the normal playback request - see include, but are not limited to, Porter

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figure 1b, col. 9, lines 15-22, col. 11, lines 53-64, col. 15, lines 14-17, col. 15, lines 51-65, col. 22, lines 16-24; col. 16, lines 35-67, col. 20, line 60-col. 21, line 25, Lin: figure 2).

Regarding claims 90-93, 95, 98-101, the additional limitations of the system as claimed correspond to the additional limitations of the method as claimed in claims 72-75, 77, 80-83 and are analyzed as discussed with respect to the rejections of claims 71-77, 79-83.

### ***Conclusion***

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Toebe, VIII et al. (US 5,959,690) discloses method and apparatus for transition and other special effects in digital motion video.

Yeo et al. (US 6,870,573) discloses method and apparatus for dynamically generating a video program summary from a multi-source video feed.

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).



A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SON P. HUYNH whose telephone number is (571)272-7295. The examiner can normally be reached on 9:00 - 6:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christopher S. Kelley can be reached on 571-272-7331. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Son P Huynh/  
Primary Examiner, Art Unit 2424

January 20, 2009